6. Schematic Diagrams

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6-3 Function-Timer - 6-5

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VCR Main PCB

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DVD Main PCB

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Note

For schematic Diagram
- Resistors are in ohms, 1/8W unless otherwise noted.

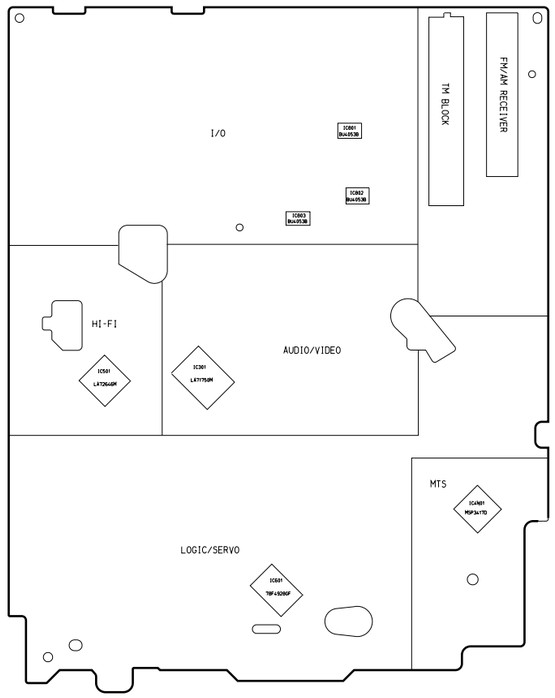
Special note :
Most semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the “electrostatically sensitive (ES) devices” section of this service manual.

Note :
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list (may be slightly different or amended since this drawing was prepared).

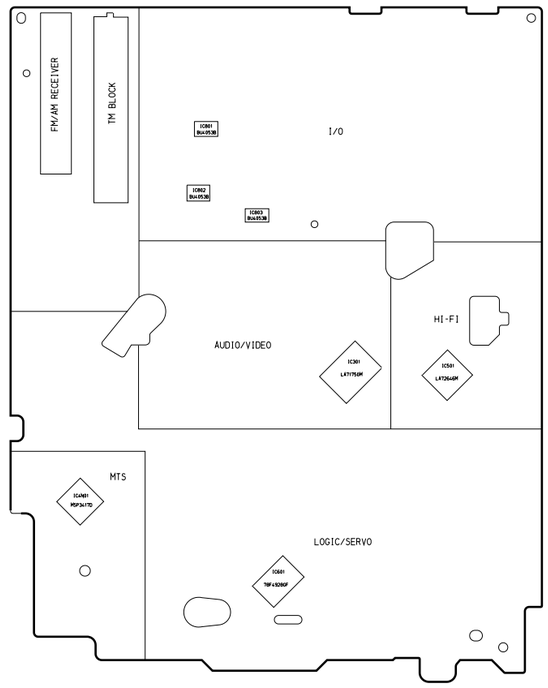
Important safety notices :
Components identified with the mark ⚠ have the special characteristics for safety. When replacing any of these components.
Use only the same type.

◆ Block Identification of Main PCB

VCR MAIN PCB

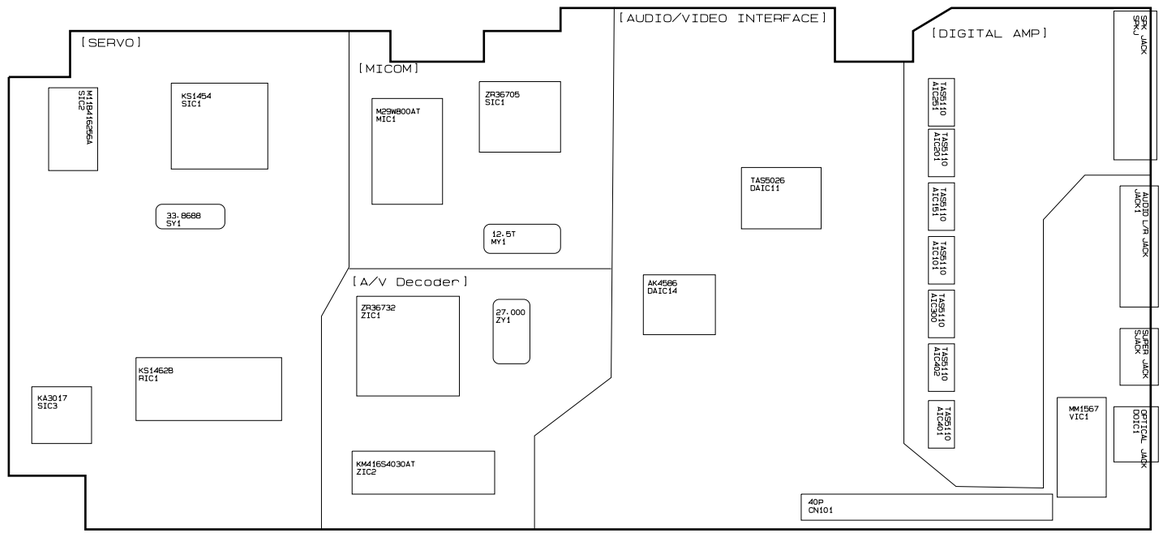


<Component Side>



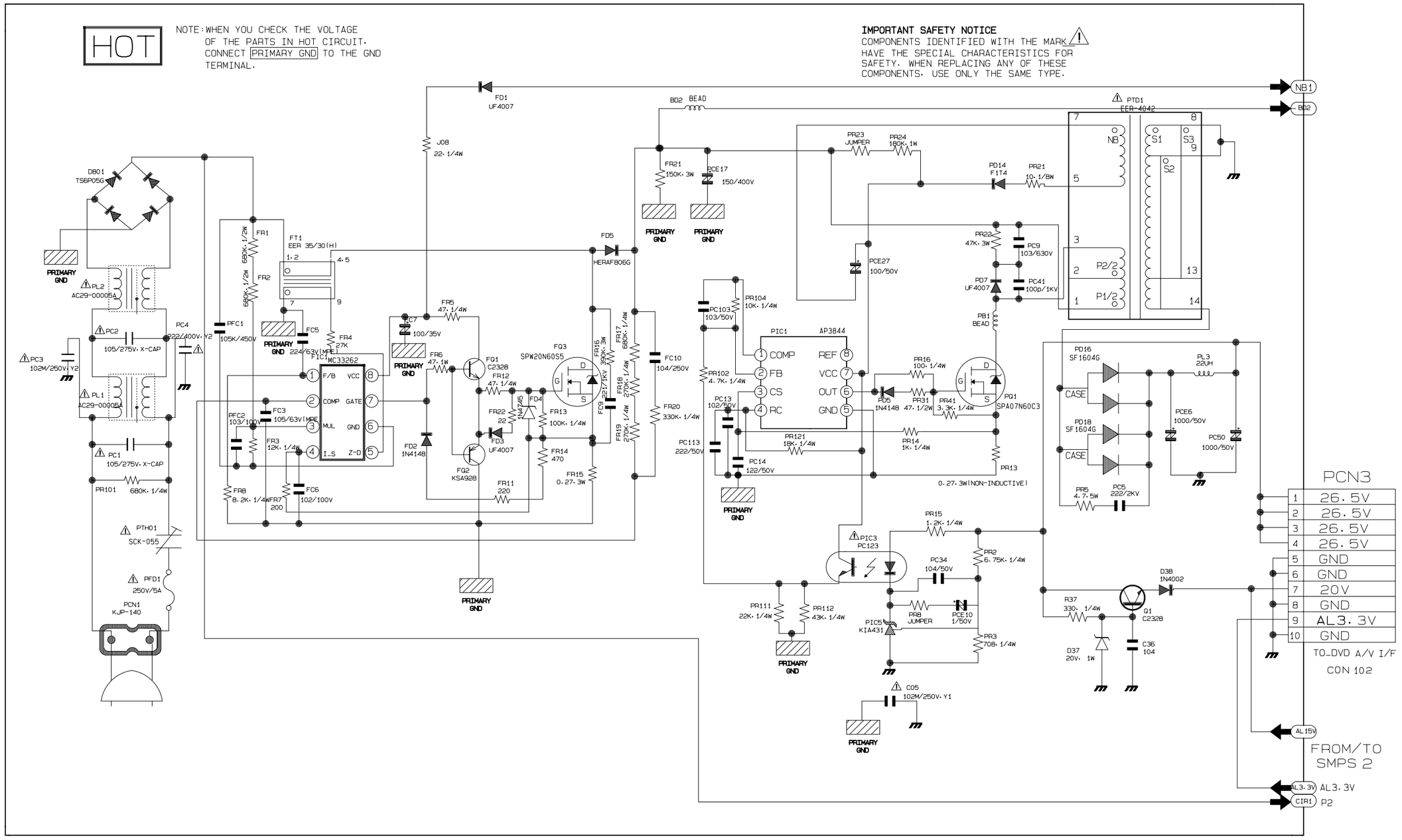
<Conductor Side>

DVD MAIN PCB

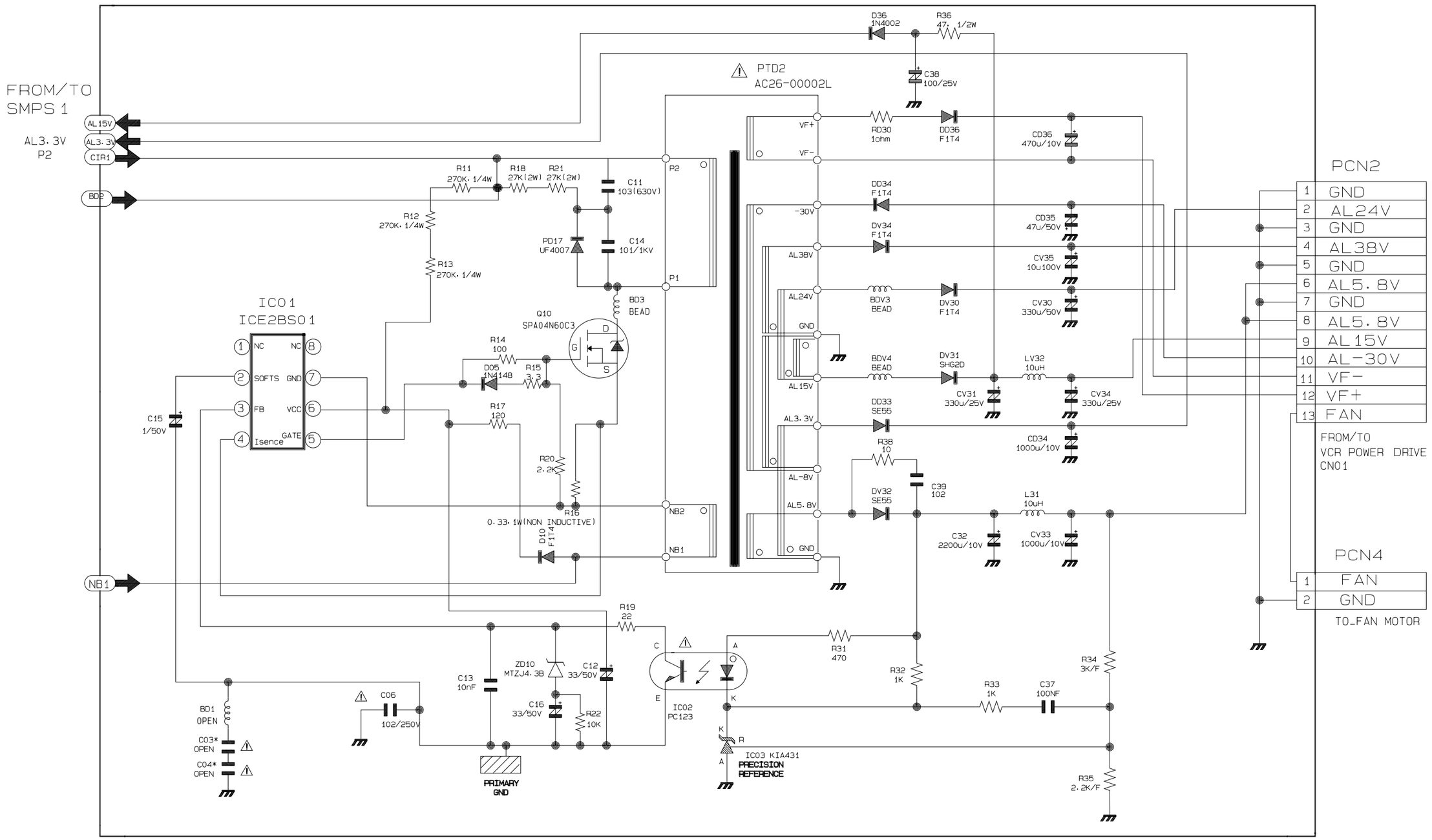


<Component Side>

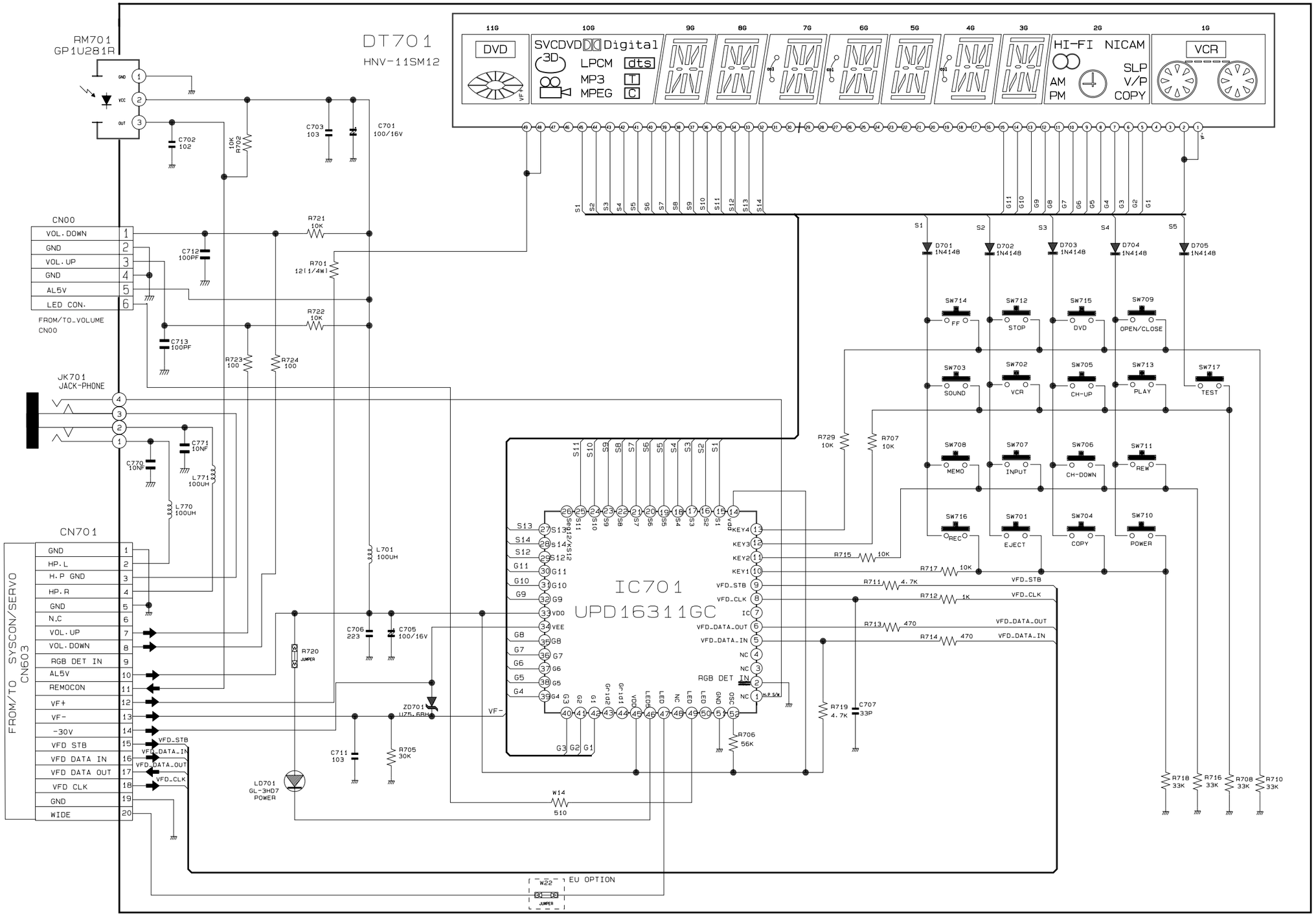
6-1 S.M.P.S.-1


HOT
NOTE: WHEN YOU CHECK THE VOLTAGE OF THE PARTS IN HOT CIRCUIT. CONNECT PRIMARY GND TO THE GND TERMINAL.
IMPORTANT SAFETY NOTICE
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS. USE ONLY THE SAME TYPE.
NB1
BD2
PRIMARY GND
DB01 TS6P05G
PL2 AC29-00005A
PC2 105/275V. X-CAP
PC4 222/400V. Y2
PC3 102M/250V. Y2
PL1 AC29-00005A
PC1 105/275V. X-CAP
PR101 680K. 1/4W
PTH01 SCK-055
PFD1 250V/5A
PCN1 KJP-140
PFC1 105K/450V
FR1 680K. 1/2W
FR2 680K. 1/2W
FT1 EER 35/30(H)
FC5 224/63V(MPE)
FR4 27K
FIC1 MC33262
F/B VCC COMP GATE MUL GND I_S Z-D
PFC2 103/100V
FC3 105/63V(MPE)
FR3 12K. 1/4W
FR8 8.2K. 1/4W
FR7 200
FC6 102/100V
FD1 UF4007
J08 22. 1/4W
FR5 47. 1/4W
FC7 100/35V
FR6 47. 1W
FQ1 C2328
FR12 47. 1/4W
FD4 1N4245
FR22 22
FD3 UF4007
FD2 1N4148
FQ2 KSA928
FR11 220
FR13 100K. 1/4W
FR14 470
FR15 0. 27. 3W
FD5 HERAF806G
FR16 390K. 3W
FR17 680K. 1/4W
FR18 270K. 1/4W
FR19 270. 1/4W
FC9 221/1KV
FC10 104/250V
FR20 330K. 1/4W
FR21 150K. 3W
PCE17 150/400V
BD2 BEAD
FD1 UF4007
PR23 JUMPER
PR24 180K. 1W
PD14 F1T4
PR21 10. 1/8W
PTD1 EER-4042
PR22 47K. 3W
PC9 103/630V
PD7 UF4007
PC41 100P/1KV
PCE27 100/50V
PB1 BEAD
PR104 10K. 1/4W
PC103 103/50V
PIC1 AP3844
COMP FB CS RC REF VCC OUT GND
PR102 4. 7K. 1/4W
PC13 102/50V
PR121 18K. 1/4W
PC14 122/50V
PC113 222/50V
PD5 1N4148
PR31 47. 1/2W
PR41 3. 3K. 1/4W
PQ1 SPA07N60C3
PR16 100. 1/4W
PR14 1K. 1/4W
PR13 0. 27. 3W(NON-INDUCTIVE)
PD16 SF1604G
PD18 SF1604G
CASE
PL3 22UH
PCE6 1000/50V
PC50 1000/50V
PR5 4. 7. 5W
PC5 222/2KV
PCN3
1 26. 5V
2 26. 5V
3 26. 5V
4 26. 5V
5 GND
6 GND
7 20V
8 GND
9 AL3. 3V
10 GND
TO_DVD A/V I/F CON 102
PR15 1. 2K. 1/4W
PIC3 PC123
PR2 6. 75K. 1/4W
PC34 104/50V
PR8 JUMPER
PCE10 1/50V
PIC5 KIA431
PR3 708. 1/4W
PR111 22K. 1/4W
PR112 43K. 1/4W
C05 102M/250V. Y1
D38 1N4002
R37 330. 1/4W
Q1 C2328
D37 20V. 1W
C36 104
AL15V
FROM/TO SMPS 2
AL3. 3V
CIR1
AL3. 3V
P2

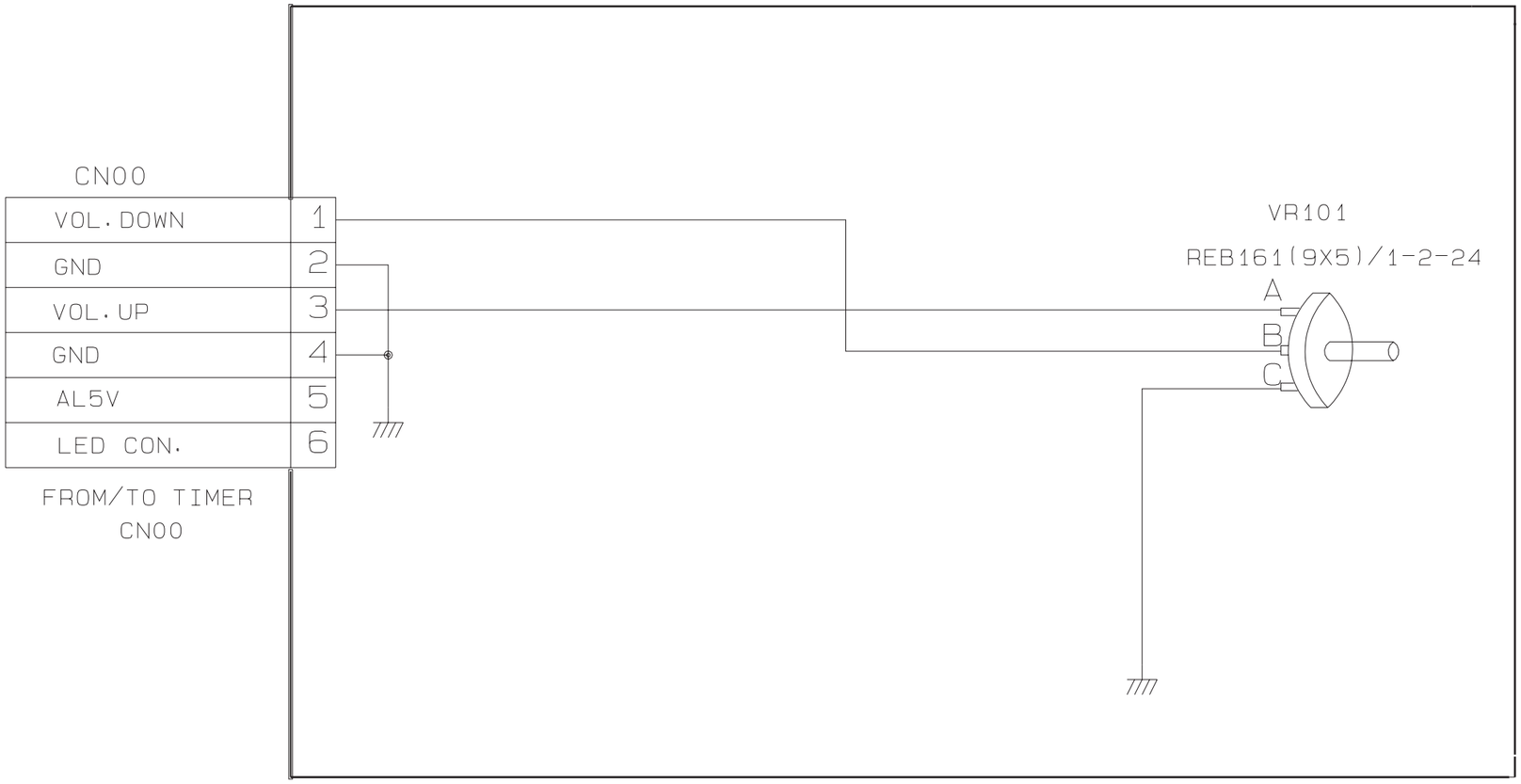
6-2 S.M.P.S.-2


FROM/TO
SMPS 1
AL15V
AL3.3V
CIR1
BD2
AL3.3V
P2
NB1
R11
270K.1/4W
R18
27K(2W)
R21
27K(2W)
C11
103(630V)
R12
270K.1/4W
R13
270K.1/4W
PD17
UF4007
C14
101/1KV
P2
P1
BD3
BEAD
ICO1
ICE2BS01
NC
NC
SOFTS
GND
FB
VCC
GATE
Isence
C15
1/50V
Q10
SPA04N60C3
D
G
S
R14
100
D05
1N4148
R15
3.3
R17
120
R20
2.2K
R16
0.33.1W(NON INDUCTIVE)
D10
F1T4
NB2
NB1
PTD2
AC26-00002L
D36
1N4002
R36
47.1/2W
C38
100/25V
VF+
VF-
-30V
AL38V
AL24V
GND
AL15V
AL3.3V
AL-8V
AL5.8V
GND
RD30
1ohm
DD36
F1T4
CD36
470u/10V
DD34
F1T4
DV34
F1T4
CD35
47u/50V
CV35
10u100V
BDV3
BEAD
DV30
F1T4
CV30
330u/50V
BDV4
BEAD
DV31
SHG2D
LV32
10uH
CV31
330u/25V
CV34
330u/25V
DD33
SE55
CD34
1000u/10V
R38
10
C39
102
DV32
SE55
L31
10uH
C32
2200u/10V
CV33
1000u/10V
PCN2
1 GND
2 AL24V
3 GND
4 AL38V
5 GND
6 AL5.8V
7 GND
8 AL5.8V
9 AL15V
10 AL-30V
11 VF-
12 VF+
13 FAN
FROM/TO
VCR POWER DRIVE
CNO1
PCN4
1 FAN
2 GND
TO_FAN MOTOR
R19
22
ZD10
MTZJ4.3B
C12
33/50V
C13
10nF
C16
33/50V
R22
10K
C06
102/250V
BD1
OPEN
C03*
OPEN
C04*
OPEN
PRIMARY
GND
C
A
E
K
IC02
PC123
R31
470
R32
1K
R33
1K
C37
100NF
R34
3K/F
R35
2.2K/F
K
R
A
IC03 KIA431
PRECISION
REFERENCE

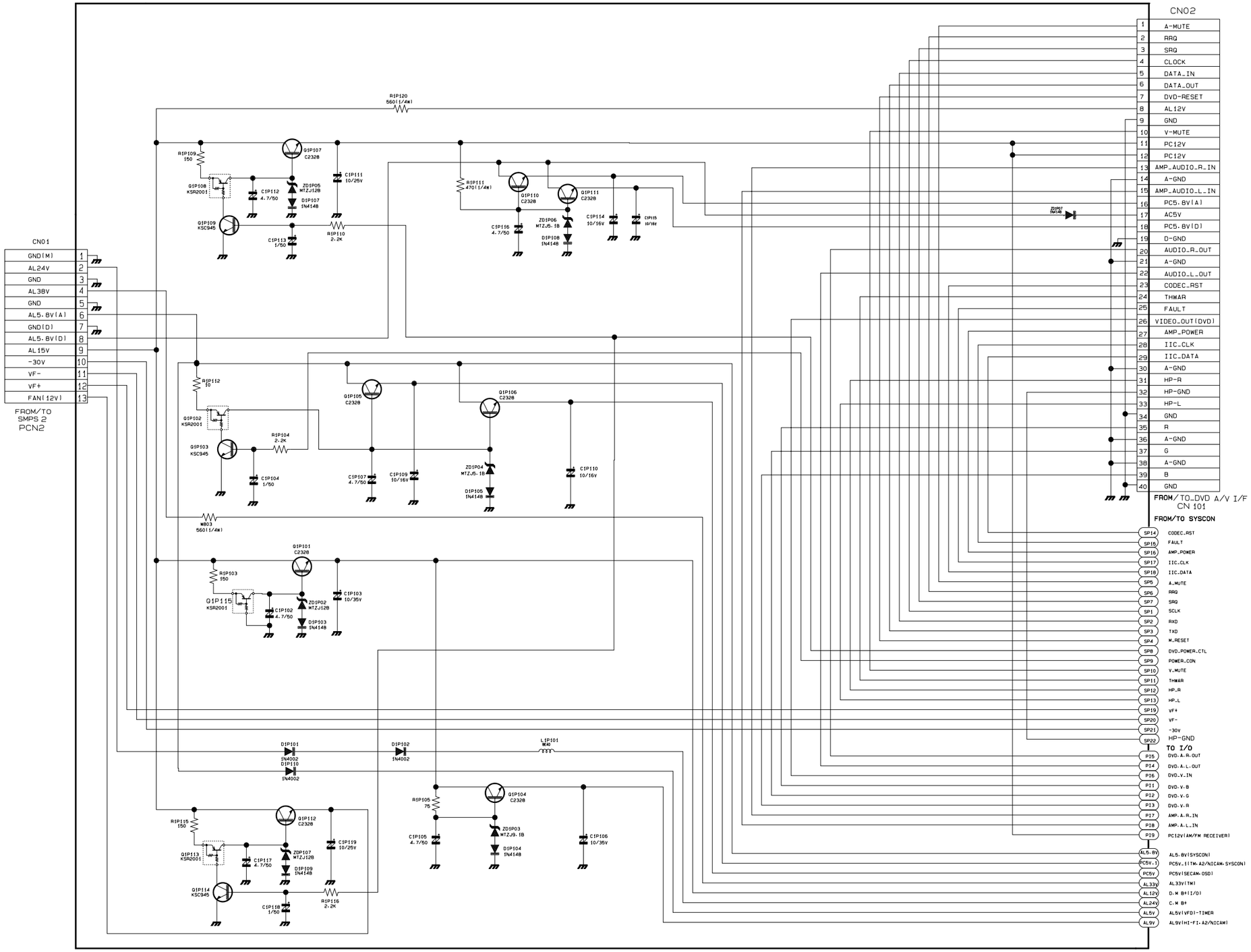
6-3 Function-Timer



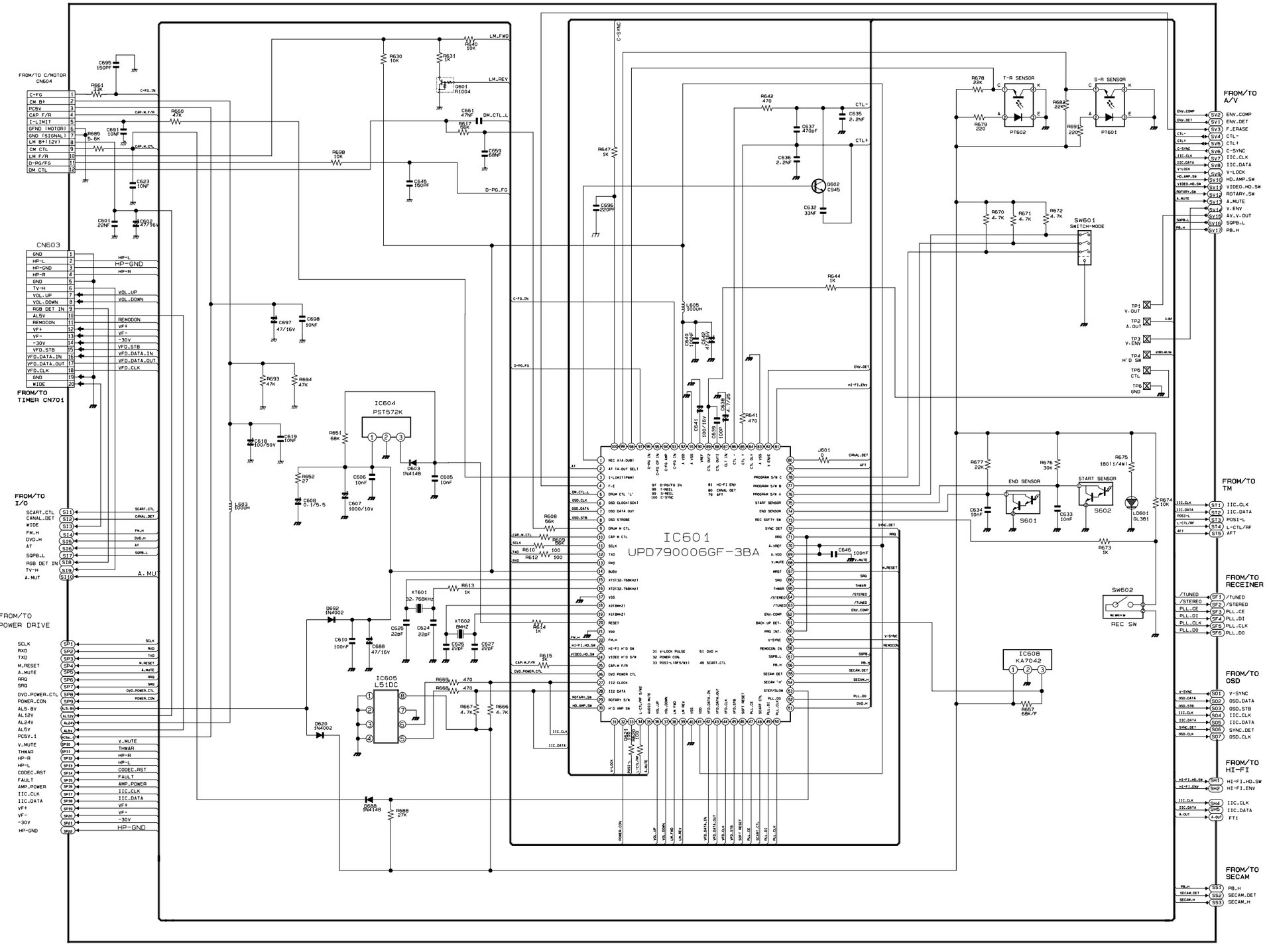
6-4 Volume


CN00
VOL. DOWN
1
GND
2
VOL. UP
3
GND
4
AL5V
5
LED CON.
6
FROM/TO TIMER
CN00
VR101
REB161(9X5)/1-2-24
A
B
C

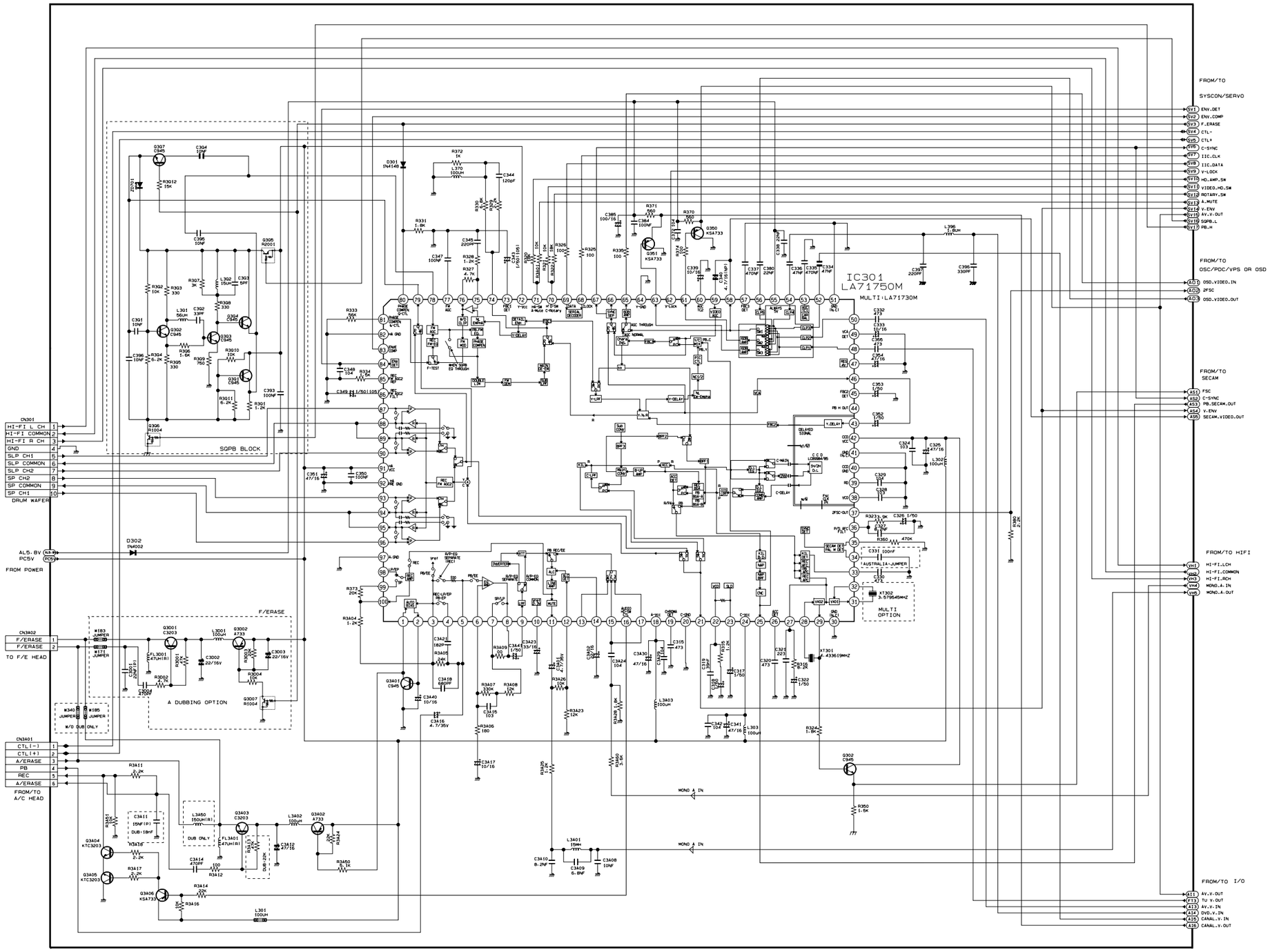
6-5 Power Drive



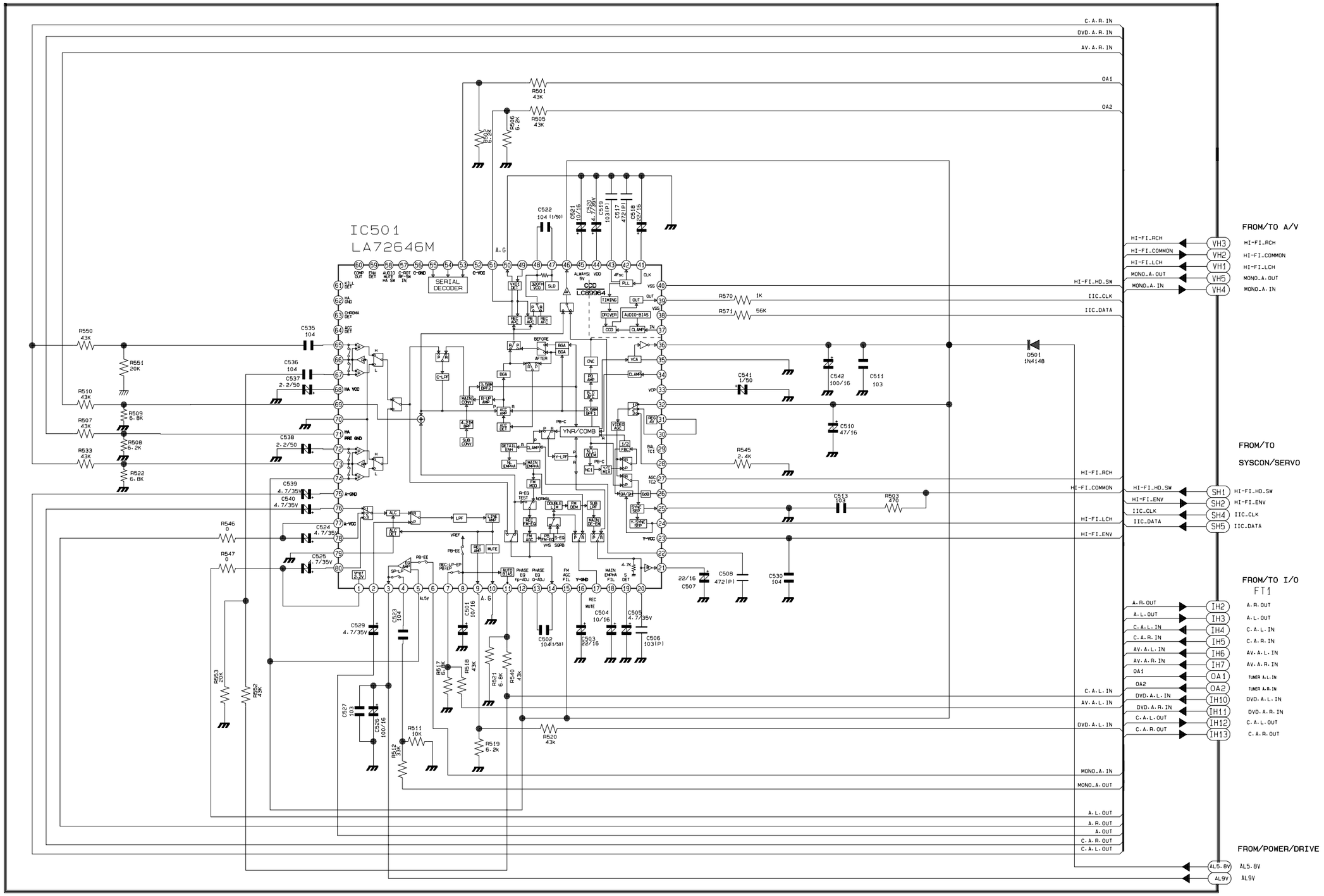
6-6 Syscon/Servo



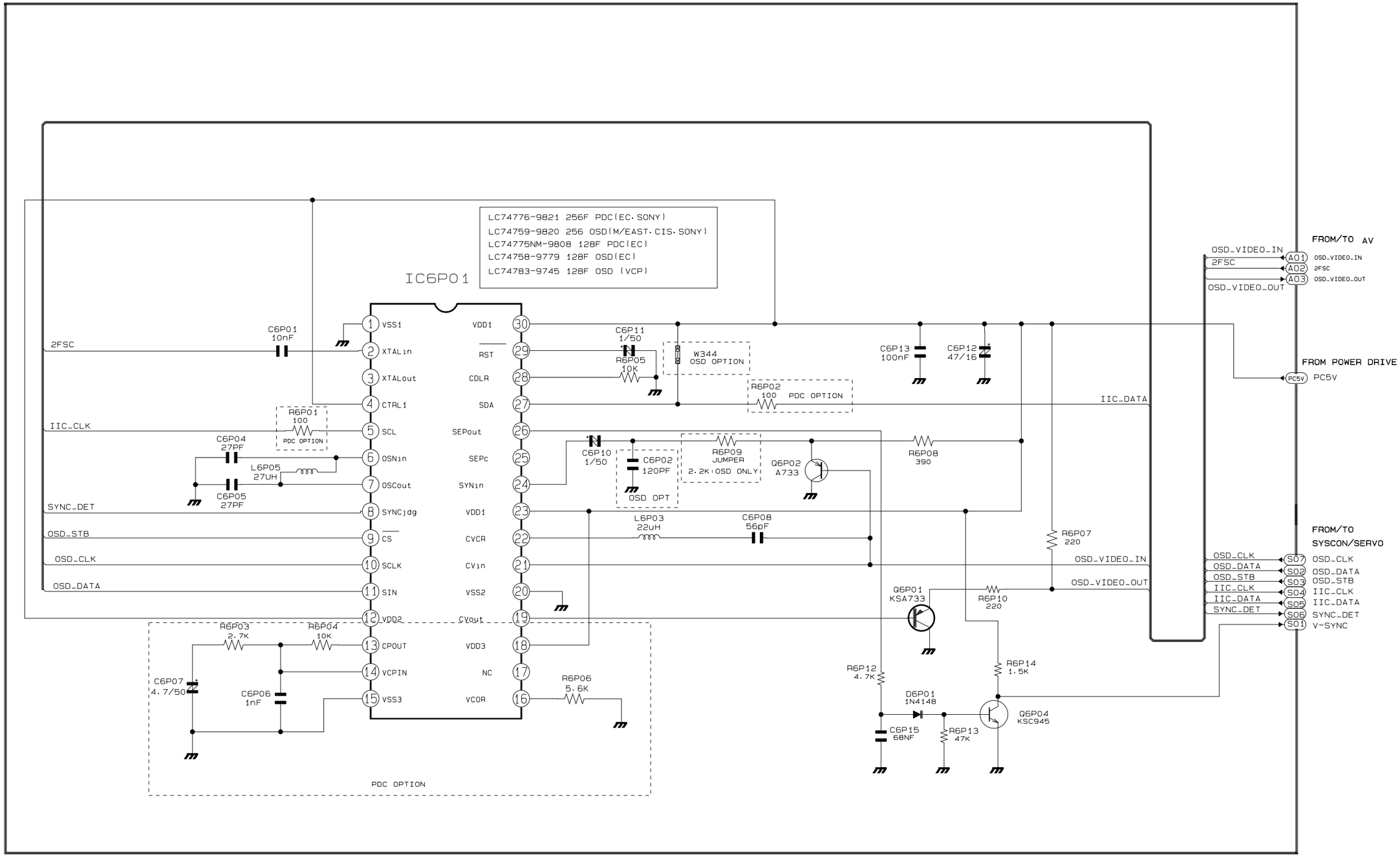
6-7 A/V


IC301
LA71750M
MULTI+LA71730M
SQPB BLOCK
F/ERASE
A DUBBING OPTION
W/O DUB ONLY
MULTI OPTION
FROM/TO SYSCON/SERVO
FROM/TO OSC/PDC/VPS OR OSD
FROM/TO SECAM
FROM/TO HIFI
FROM/TO I/O
FROM/TO A/C HEAD
FROM POWER
TO F/E HEAD
DRUM WAFER
MONO A IN
MONO A IN

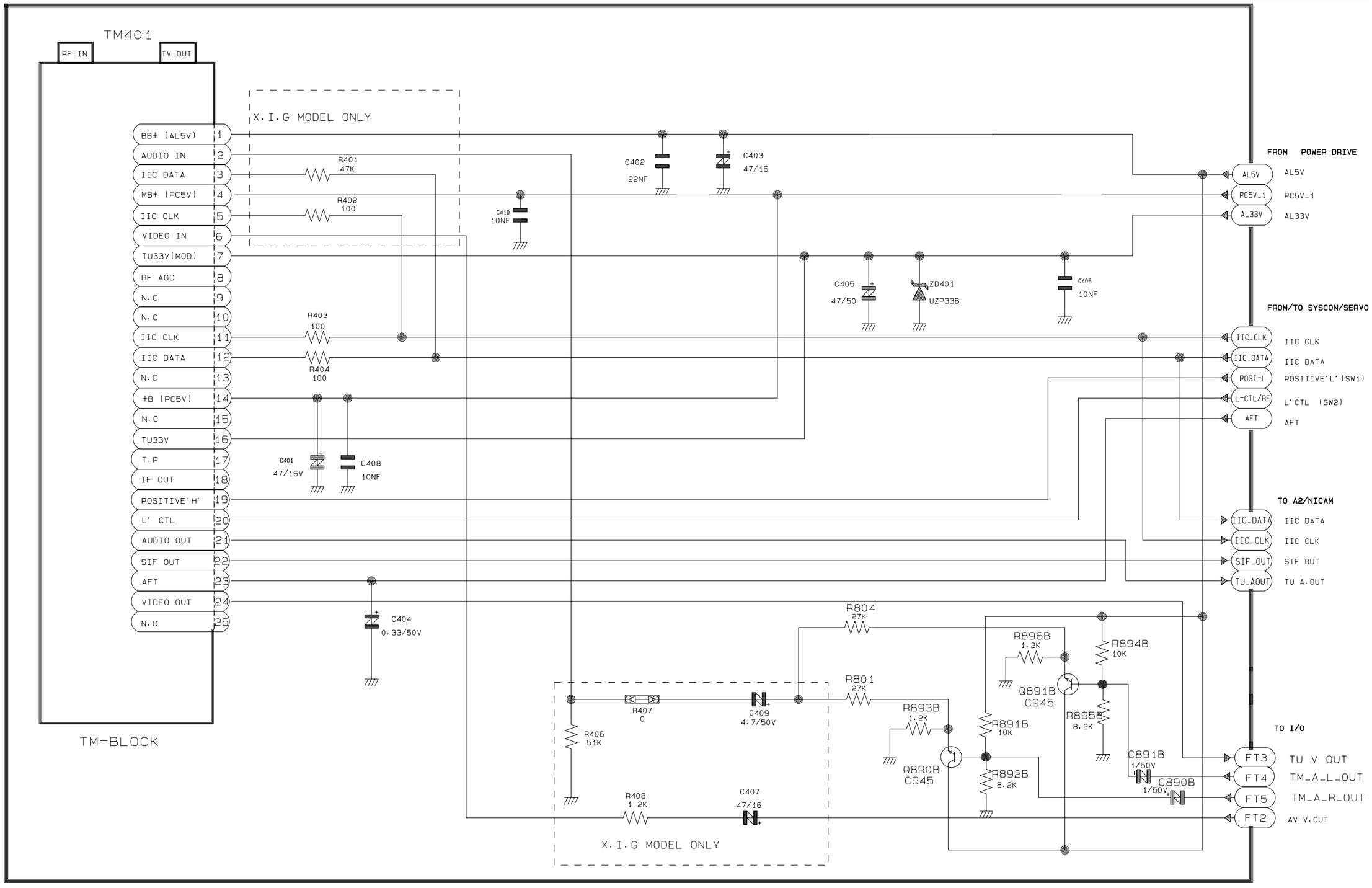
6-8 Hi-Fi


IC501
LA72646M
SERIAL DECODER
CCD
LC89964
YNR/COMB
C.A.R.IN
DVD.A.R.IN
AV.A.R.IN
OA1
OA2
HI-FI_HD_SW
IIC_CLK
IIC_DATA
HI-FI_RCH
HI-FI_COMMON
HI-FI_LCH
MONO_A.OUT
MONO_A.IN
FROM/TO A/V
VH3 HI-FI_RCH
VH2 HI-FI_COMMON
VH1 HI-FI_LCH
VH5 MONO_A.OUT
VH4 MONO_A.IN
FROM/TO
SYSCON/SERVO
SH1 HI-FI_HD_SW
SH2 HI-FI_ENV
SH4 IIC_CLK
SH5 IIC_DATA
FROM/TO I/O
FT1
IH2 A.R.OUT
IH3 A.L.OUT
IH4 C.A.L.IN
IH5 C.A.R.IN
IH6 AV.A.L.IN
IH7 AV.A.R.IN
OA1 TUNER A.L.IN
OA2 TUNER A.R.IN
IH10 DVD.A.L.IN
IH11 DVD.A.R.IN
IH12 C.A.L.OUT
IH13 C.A.R.OUT
FROM/POWER/DRIVE
AL5.8V
AL9V
D501 1N4148
R501 43K
R505 43K
R570 1K
R571 56K
R550 43K
R551 20K
R510 43K
R509 6.8K
R507 43K
R508 6.2K
R533 43K
R522 6.8K
R546 0
R547 0
R553 20K
R552 43K
R545 2.4K
R503 470
R511 10K
R512 33K
R519 6.2K
R520 43K
C522 104 (1/50)
C521 10/16
C520 .47/35V
C519 103(P)
C517 472(P)
C518 22/16
C535 104
C536 104
C537 2.2/50
C538 2.2/50
C539 4.7/35V
C540 4.7/35V
C524 4.7/35V
C526 4.7/35V
C529 4.7/35V
C523 104
C527 103
C528 100/16
C501 10/16
C502 104(1/50)
C503 22/16
C504 10/16
C505 4.7/35V
C506 103(P)
C541 1/50
C542 100/16
C511 103
C510 47/16
C513 103
C508 472(P)
C530 104
C507 22/16

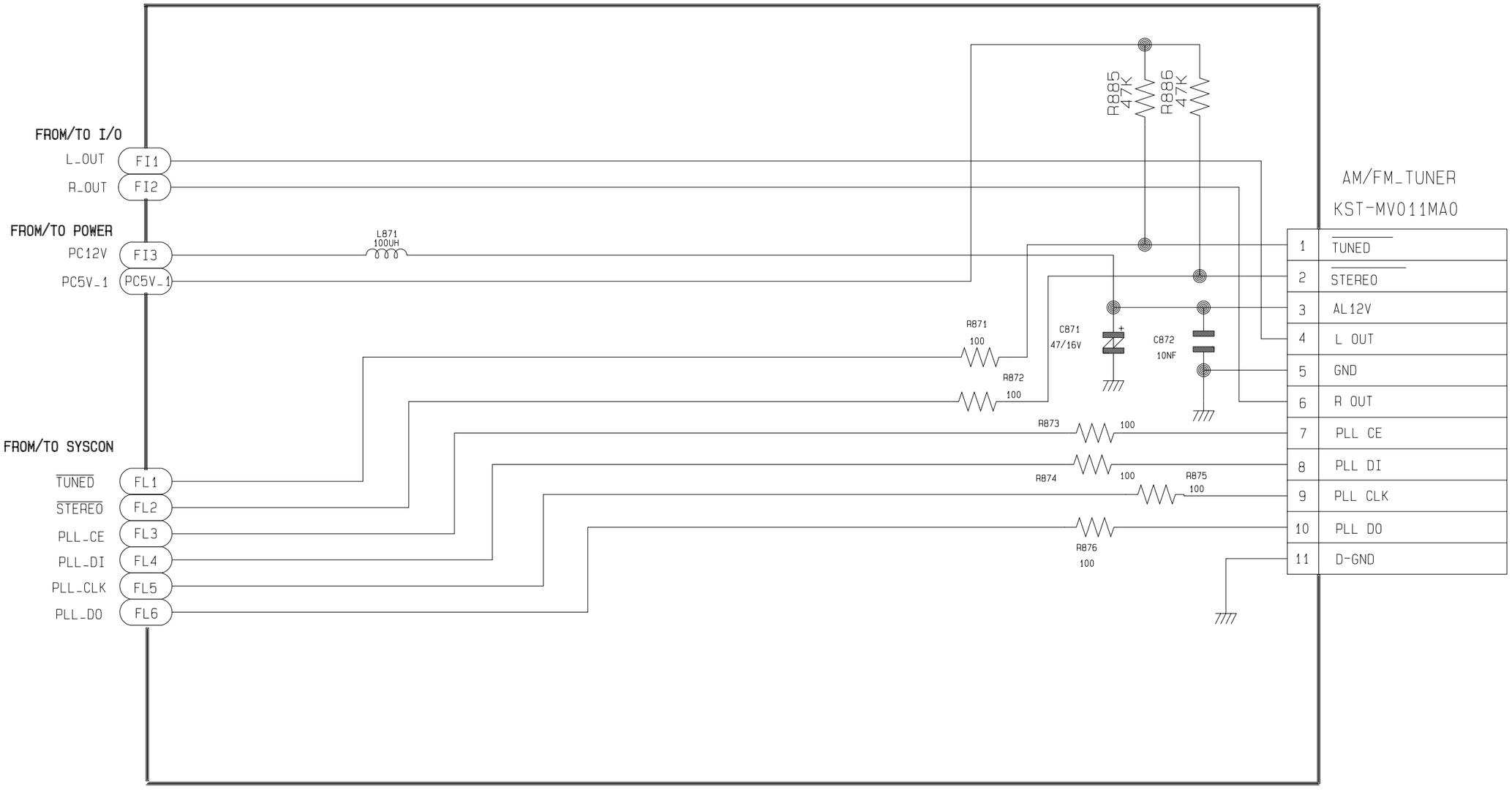
6-9 OSD/YPS/PDC



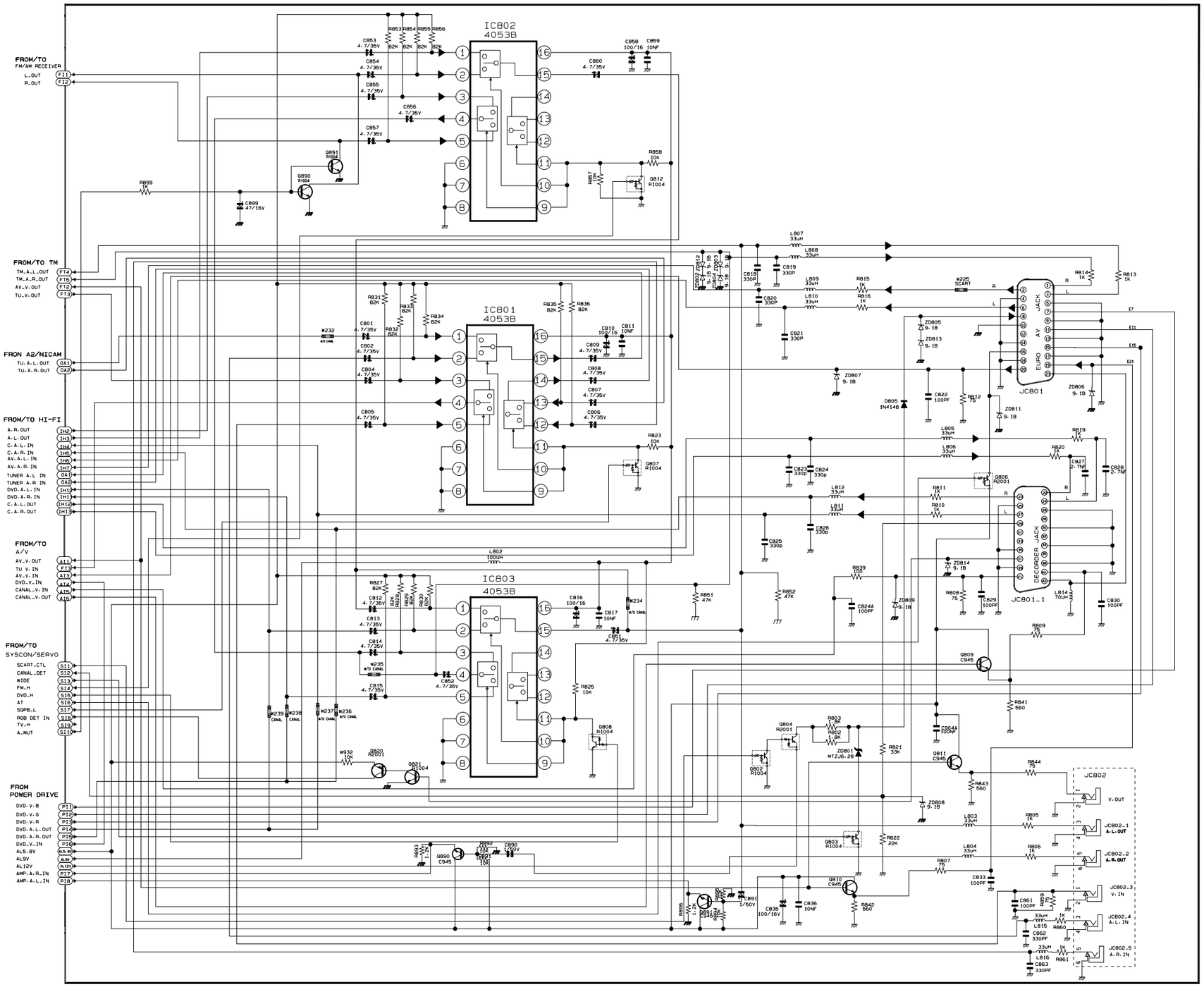
6-10 TM


TM401
RF IN
TV OUT
X.I.G MODEL ONLY
BB+ (AL5V) 1
AUDIO IN 2
IIC DATA 3
MB+ (PC5V) 4
IIC CLK 5
VIDEO IN 6
TU33V(MOD) 7
RF AGC 8
N.C 9
N.C 10
IIC CLK 11
IIC DATA 12
N.C 13
+B (PC5V) 14
N.C 15
TU33V 16
T.P 17
IF OUT 18
POSITIVE'H' 19
L' CTL 20
AUDIO OUT 21
SIF OUT 22
AFT 23
VIDEO OUT 24
N.C 25
R401 47K
R402 100
R403 100
R404 100
C401 47/16V
C408 10NF
C410 10NF
C402 22NF
C403 47/16
C404 0.33/50V
C405 47/50
ZD401 UZP33B
C406 10NF
R804 27K
R801 27K
R407 0
C409 4.7/50V
R406 51K
R408 1.2K
C407 47/16
X.I.G MODEL ONLY
R896B 1.2K
R894B 10K
Q891B C945
R893B 1.2K
R891B 10K
R895B 8.2K
C891B 1/50V
Q890B C945
R892B 8.2K
C890B 1/50V
TM-BLOCK
FROM POWER DRIVE
AL5V
PC5V_1
AL33V
FROM/TO SYSCON/SERVO
IIC_CLK
IIC_DATA
POSI-L
L-CTL/RF
AFT
IIC CLK
IIC DATA
POSITIVE'L' (SW1)
L'CTL (SW2)
AFT
TO A2/NICAM
IIC_DATA
IIC_CLK
SIF_OUT
TU_AOUT
IIC DATA
IIC CLK
SIF OUT
TU A.OUT
TO I/O
FT3
FT4
FT5
FT2
TU V OUT
TM_A_L_OUT
TM_A_R_OUT
AV V.OUT

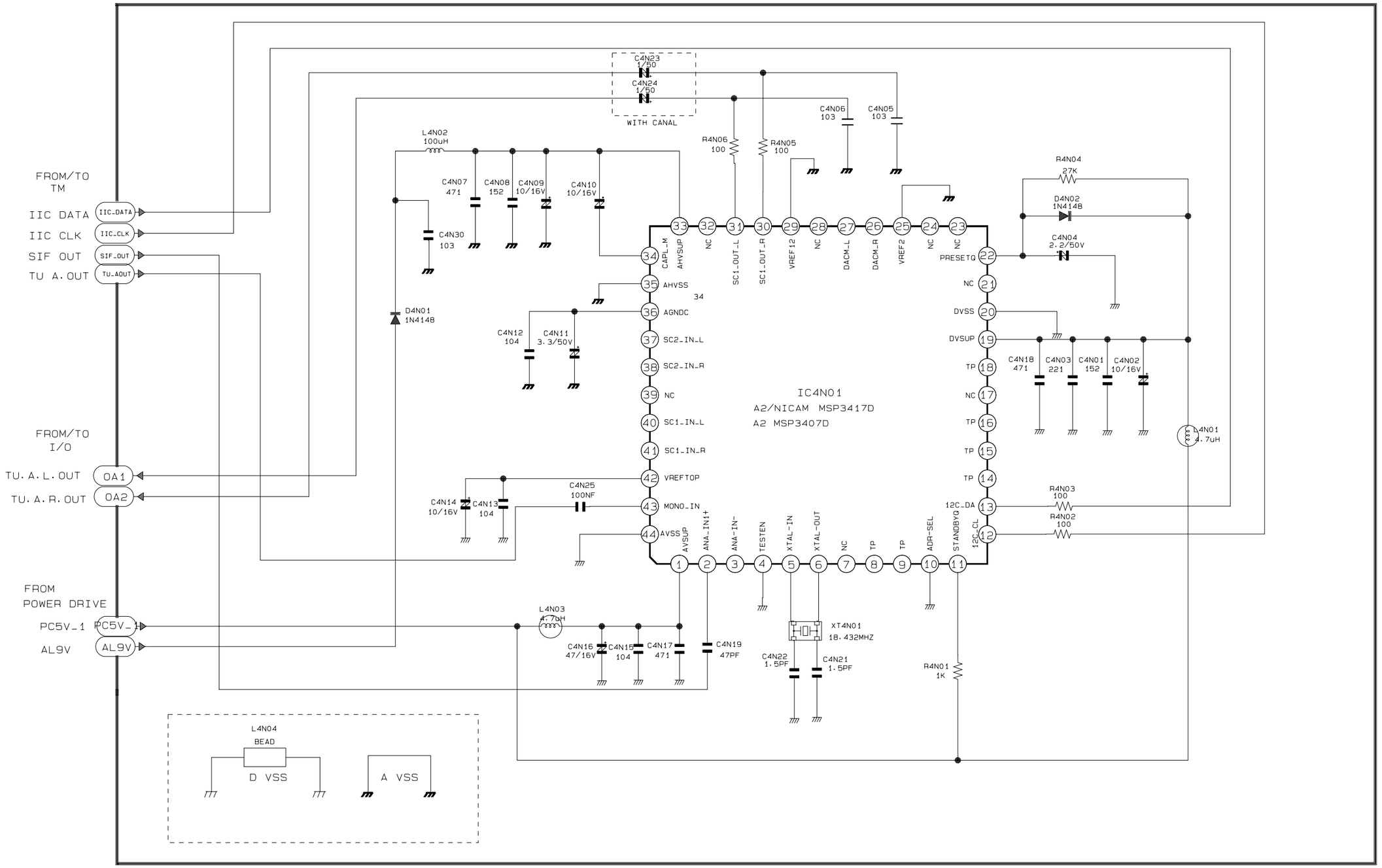
6-11 AM/FM Receiver



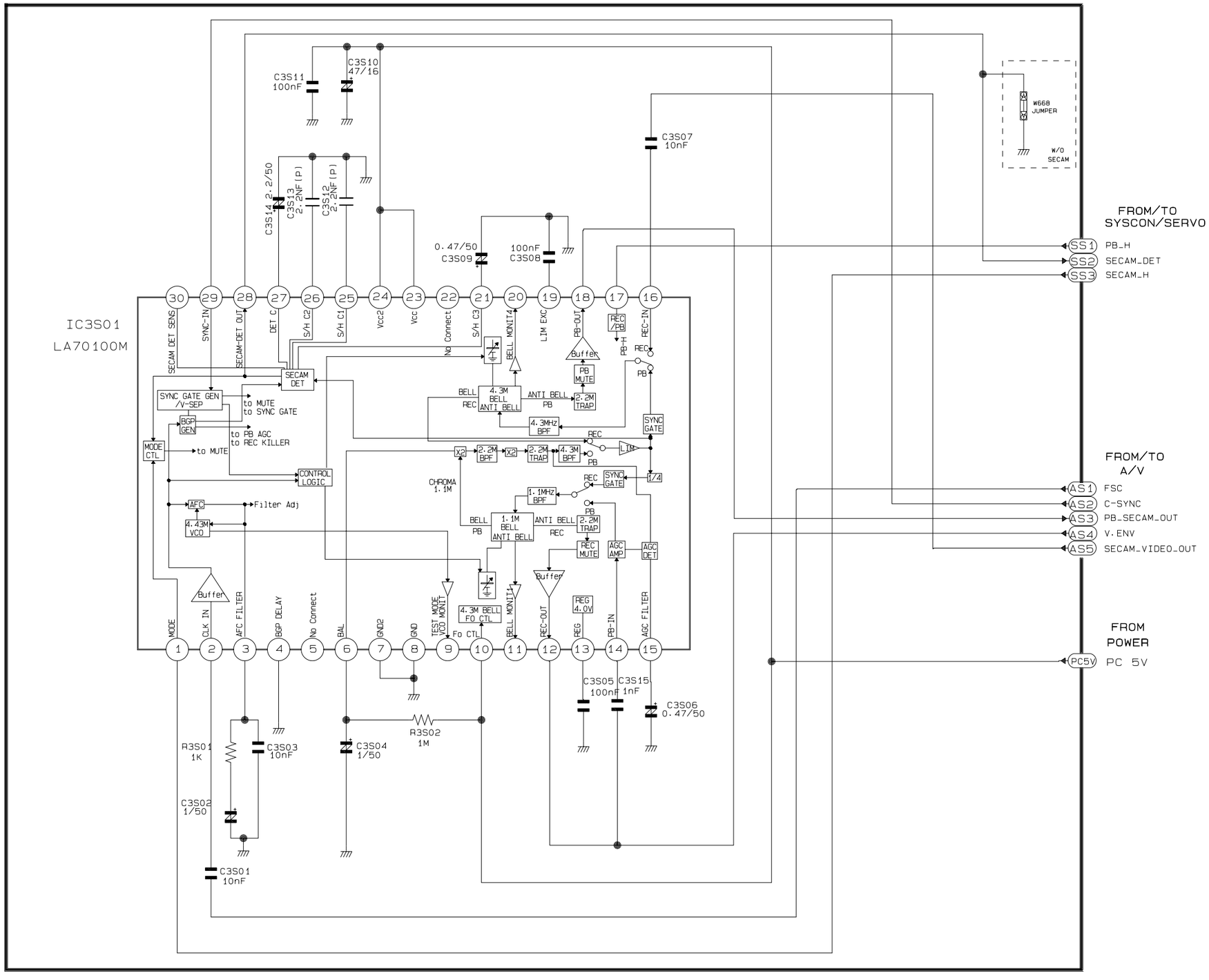
6-12 Input-Output



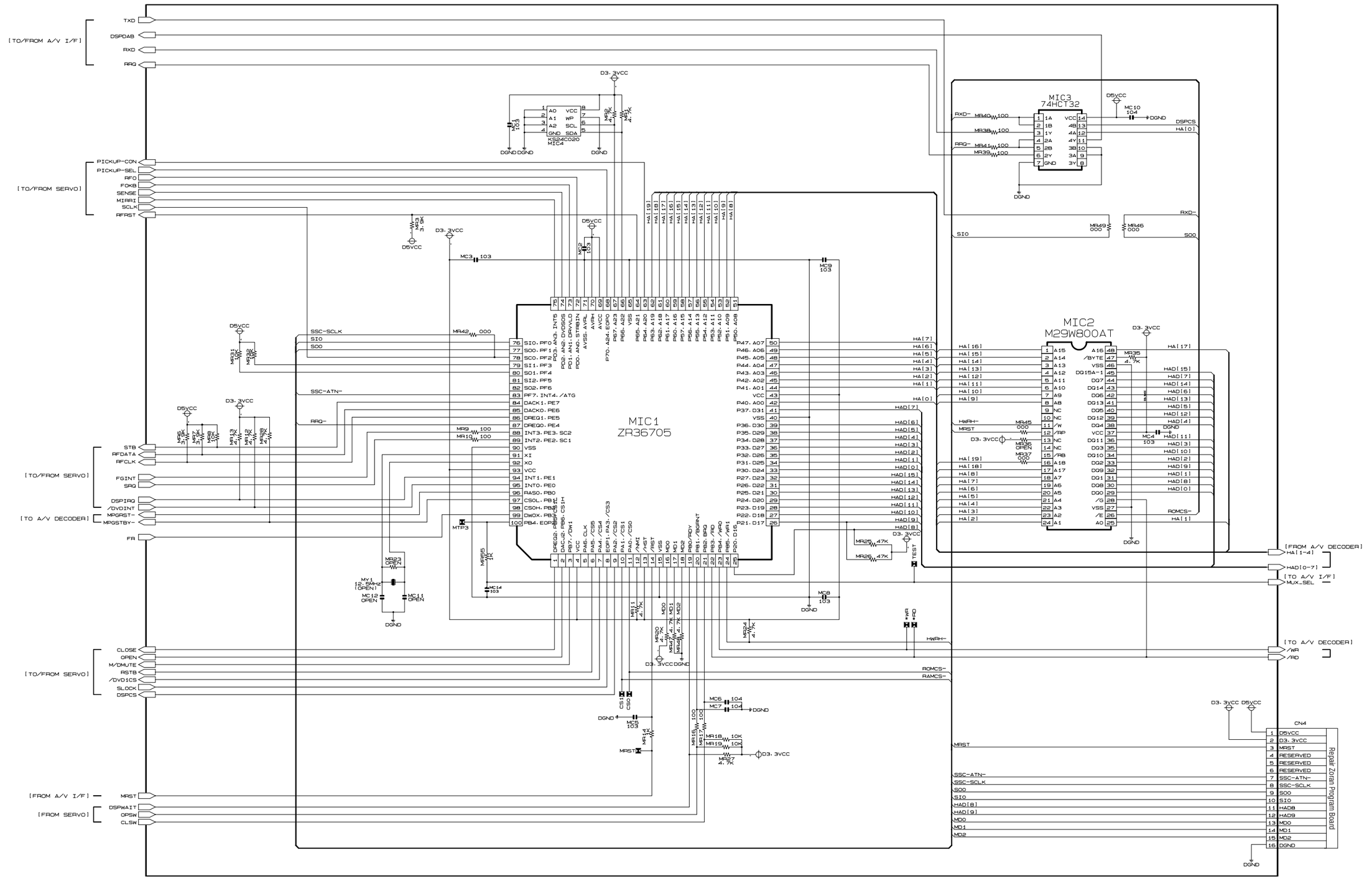
6-13 A2/NICAM


FROM/TO TM
IIC DATA
IIC CLK
SIF OUT
TU A.OUT
IIC_DATA
IIC_CLK
SIF_OUT
TU_AOUT
FROM/TO I/O
TU.A.L.OUT
TU.A.R.OUT
OA1
OA2
FROM POWER DRIVE
PC5V_1
AL9V
PC5V_1
AL9V
C4N23 1/50
C4N24 1/50
WITH CANAL
L4N02 100uH
C4N07 471
C4N08 152
C4N09 10/16V
C4N10 10/16V
C4N30 103
D4N01 1N4148
C4N12 104
C4N11 3.3/50V
C4N14 10/16V
C4N13 104
C4N25 100NF
L4N03 4.7uH
C4N16 47/16V
C4N15 104
C4N17 471
C4N19 47PF
R4N06 100
R4N05 100
C4N06 103
C4N05 103
R4N04 27K
D4N02 1N4148
C4N04 2.2/50V
C4N18 471
C4N03 221
C4N01 152
C4N02 10/16V
L4N01 4.7uH
R4N03 100
R4N02 100
R4N01 1K
XT4N01 18.432MHZ
C4N22 1.5PF
C4N21 1.5PF
IC4N01
A2/NICAM MSP3417D
A2 MSP3407D
33 C4PL_M
32 AHVSUP
31 NC
30 SC1_OUT_L
29 SC1_OUT_R
28 VREF12
27 NC
26 DACM_L
25 DACM_R
24 VREF2
23 NC
22 NC
34 AHVSS
35 AGNDC
36 SC2_IN_L
37 SC2_IN_R
38 NC
39 SC1_IN_L
40 SC1_IN_R
41 VREFTOP
42 MONO_IN
43 AVSS
44 AVSUP
1 ANA_IN1+
2 ANA_IN-
3 TESTEN
4 XTAL_IN
5 XTAL_OUT
6 NC
7 TP
8 TP
9 ADR_SEL
10 STANDBYQ
11 I2C_CL
12 I2C_DA
13 TP
14 TP
15 TP
16 NC
17 TP
18 DVSUP
19 DVSS
20 PRESETQ
21
L4N04 BEAD
D VSS
A VSS

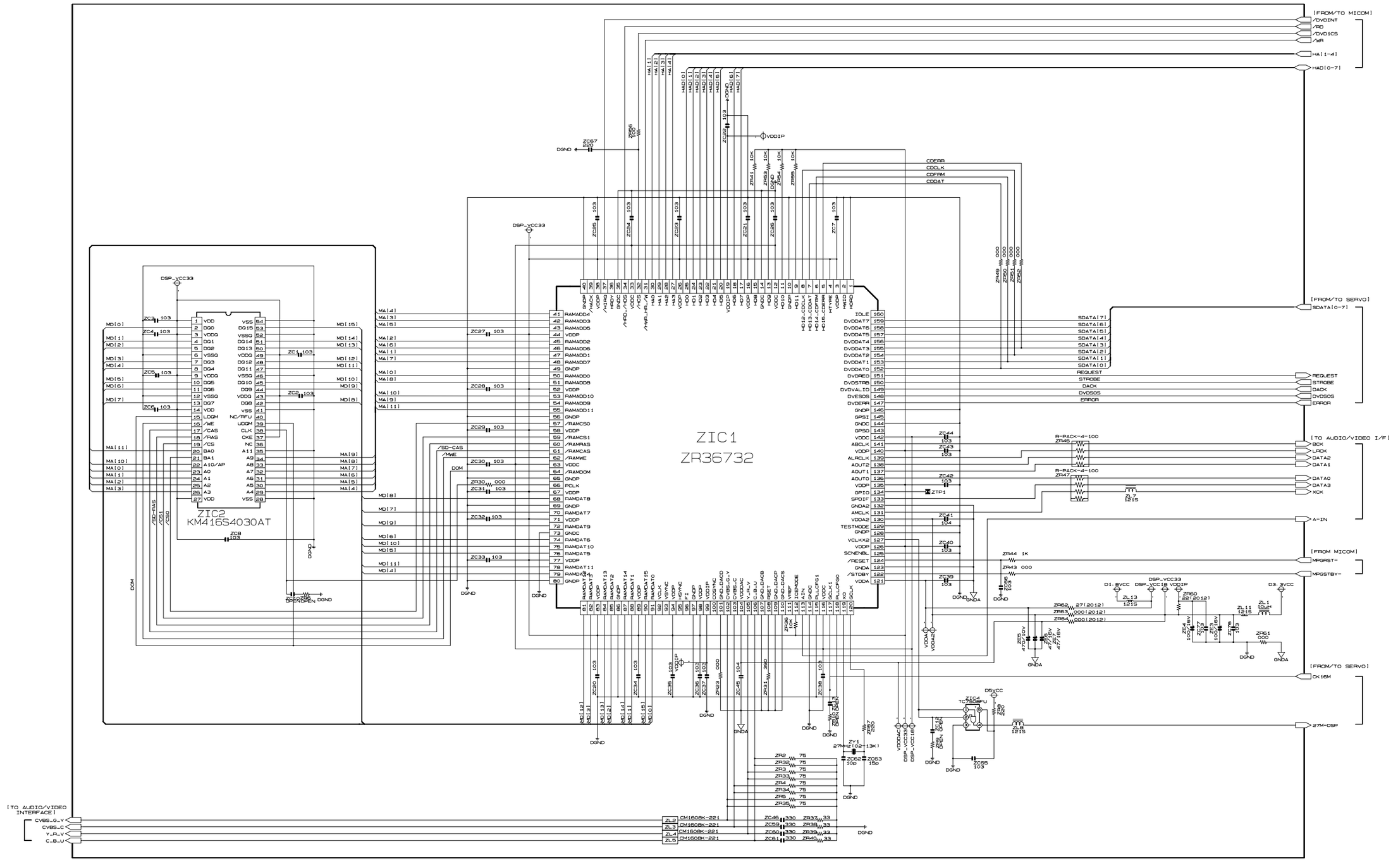
6-14 SECAM


IC3S01
LA70100M
C3S11 100nF
C3S10 47/16
C3S14 2.2/50
C3S13 2.2NF(P)
C3S12 2.2NF(P)
C3S07 10nF
0.47/50 C3S09
100nF C3S08
W668 JUMPER
W/O SECAM
FROM/TO SYSCON/SERVO
SS1 PB_H
SS2 SECAM_DET
SS3 SECAM_H
FROM/TO A/V
AS1 FSC
AS2 C-SYNC
AS3 PB_SECAM_OUT
AS4 V.ENV
AS5 SECAM_VIDEO_OUT
FROM POWER
PC5V PC 5V
SECAM DET SENS
SYNC-IN
SECAM-DET OUT
DET C
S/H C2
S/H C1
Vcc2
Vcc
No Connect
S/H C3
BELL MONIT
LIM EXC
PB-OUT
REC /PB
PB-H
REC-IN
SECAM DET
SYNC GATE GEN /V-SEP
to MUTE
to SYNC GATE
BGP GEN
to PB AGC
to REC KILLER
MODE CTL
to MUTE
CONTROL LOGIC
AFC
Filter Adj
4.43M VCO
Buffer
PB MUTE
BELL REC
4.3M BELL ANTI BELL
ANTI BELL PB
2.2M TRAP
4.3MHz BPF
REC
SYNC GATE
X2
2.2M BPF
X2
2.2M TRAP
4.3M BPF
PB
LIM
CHROMA 1.1M
1/4
1.1MHz BPF
BELL PB
1.1M BELL ANTI BELL
ANTI BELL REC
2.2M TRAP
REC MUTE
AGC AMP
AGC DET
4.3M BELL FO CTL
REG 4.0V
MODE
CLK IN
AFC FILTER
BGP DELAY
No Connect
BAL
GND2
GND
TEST MODE VCO MONIT
Fo CTL
REC-OUT
REG
PB-IN
AGC FILTER
C3S05 100nF
C3S15 1nF
C3S06 0.47/50
R3S02 1M
R3S01 1K
C3S03 10nF
C3S04 1/50
C3S02 1/50
C3S01 10nF

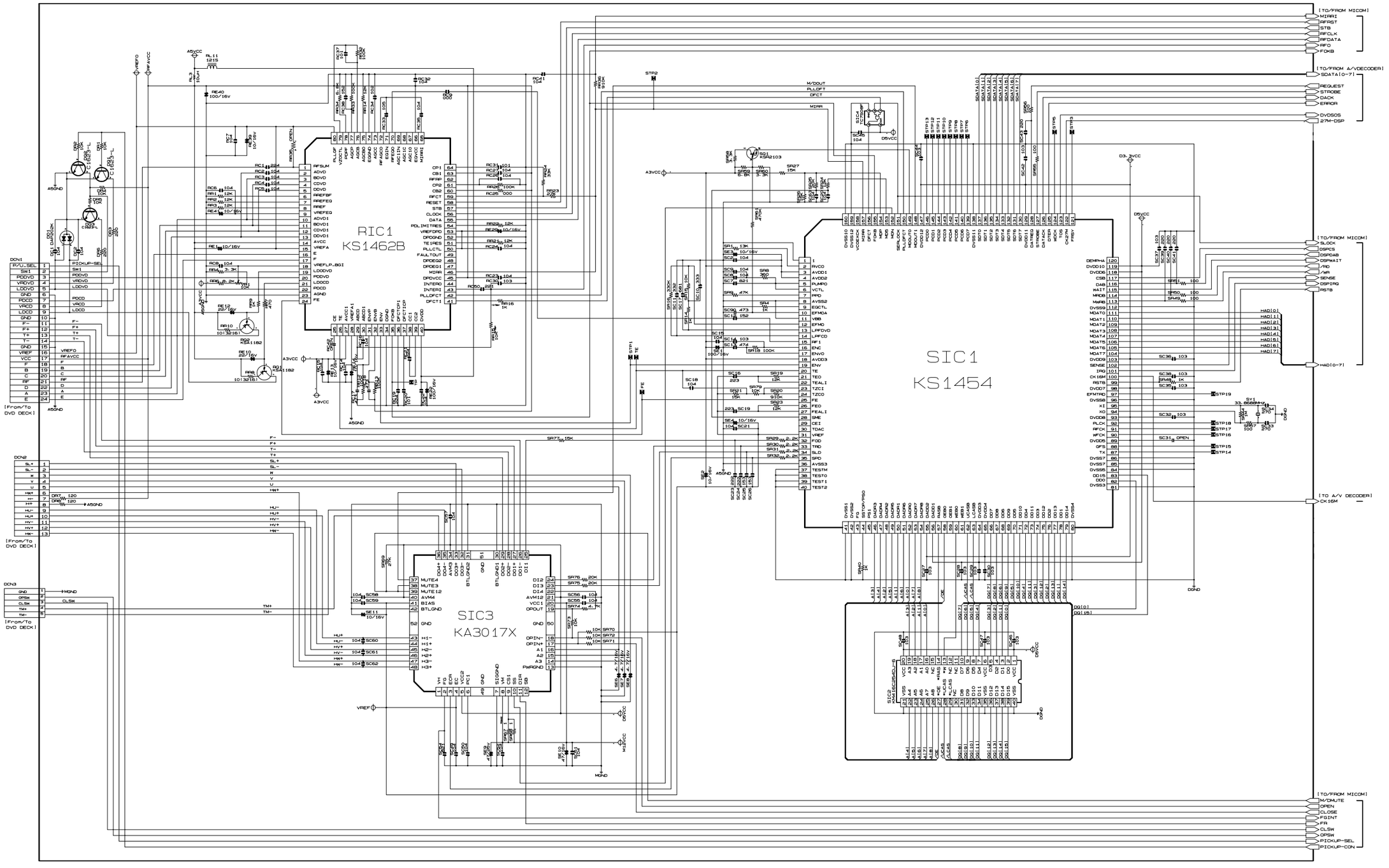
6-15 DVD Micom



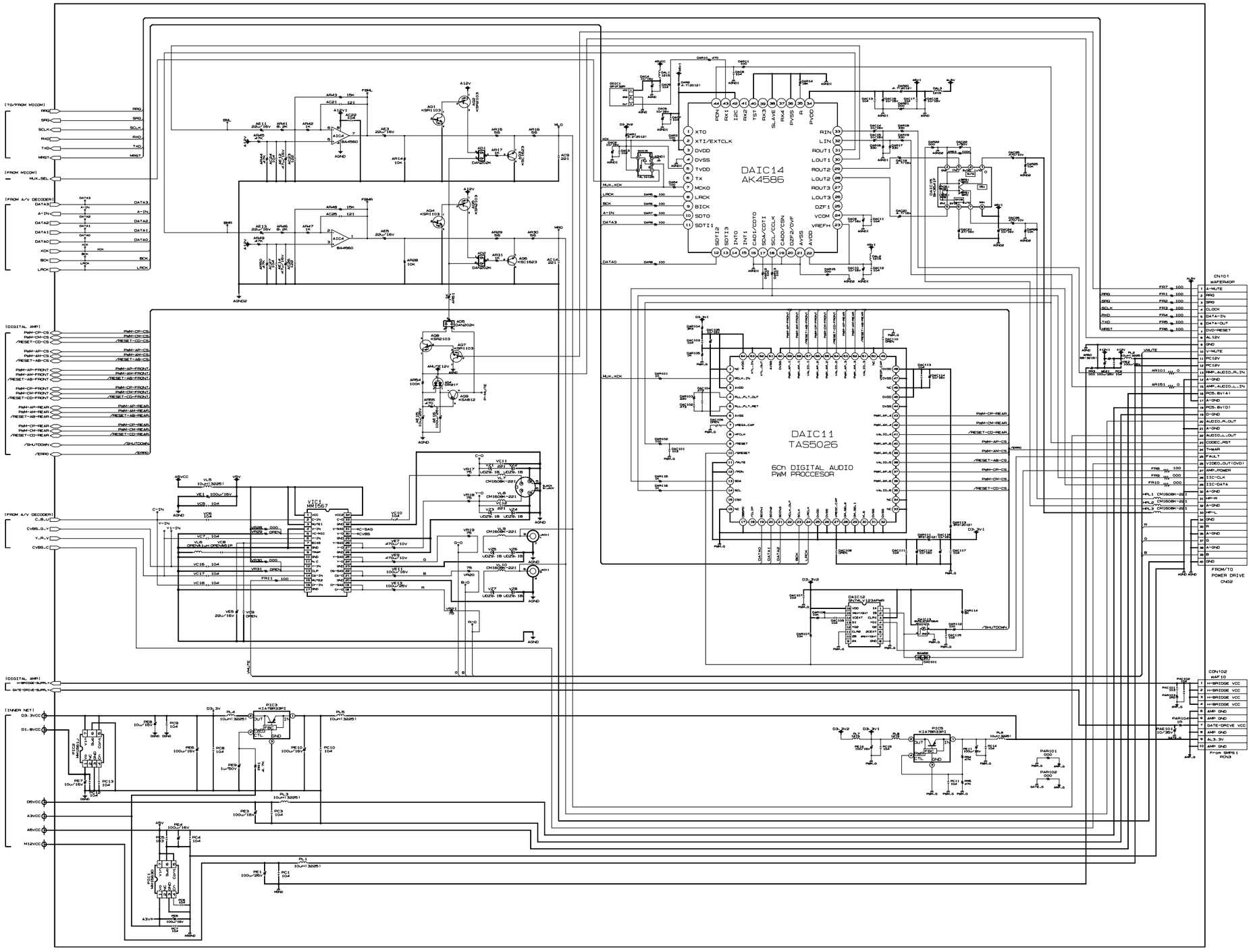
6-16 DVD AV Decoder



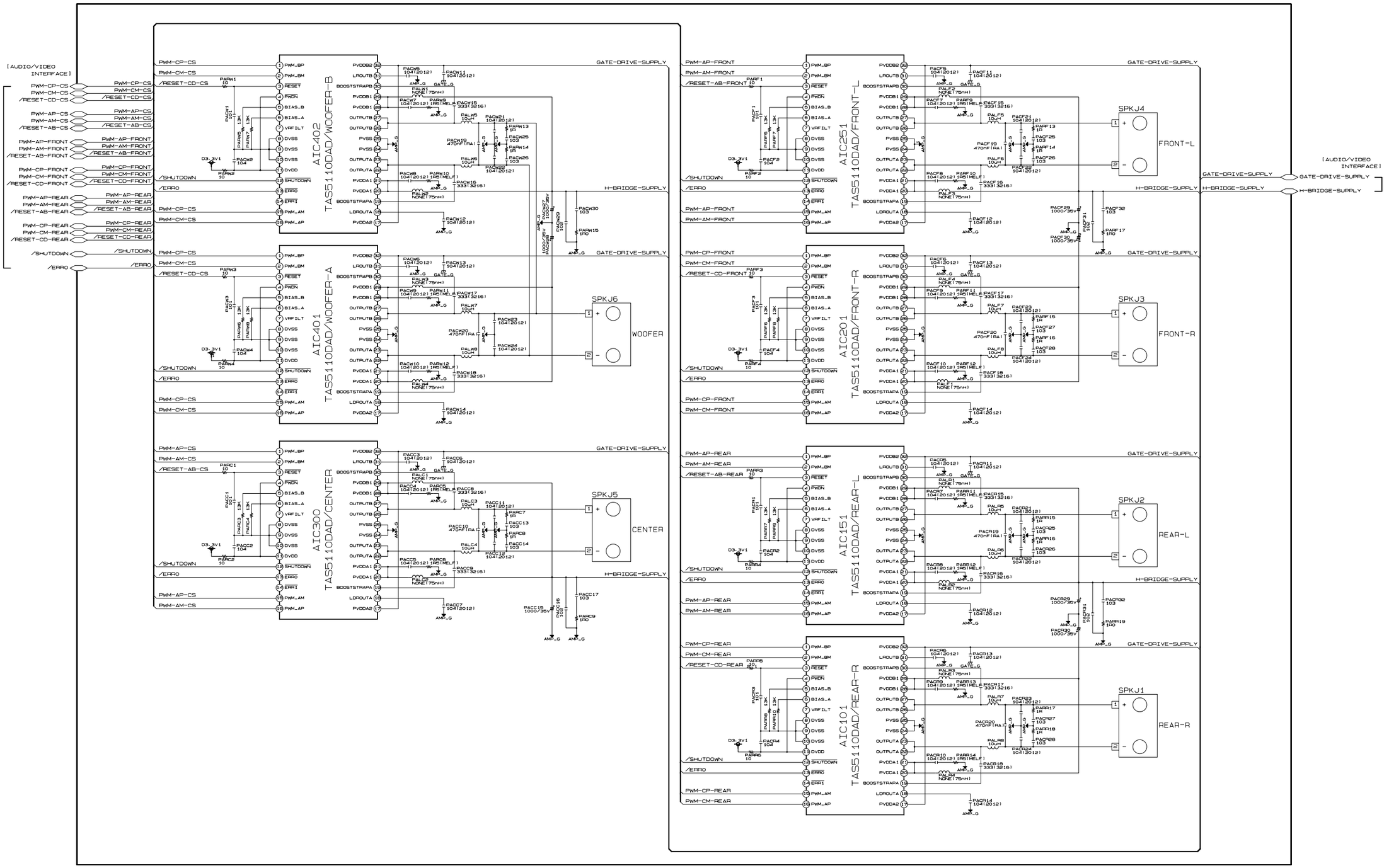
6-17 DVD Servo



6-18 DVD Audio/Video Interface



6-19 Digital Amp



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